



Dungeness Crab Electronic Monitoring Proposed Rule

Small Business Economic Impact Statement

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Table of Contents

Executive Summary	ES-1
CHAPTER 1 Introduction	1-1
1.1 Need for the Rule	1-1
1.2 Summary of the Proposed Rule.....	1-3
1.3 Proposed Rule Elements Resulting in Costs to Businesses	1-4
1.4 Requirement for Developing an SBEIS	1-6
CHAPTER 2 Small Business Impacts	2-7
2.1 Potentially Affected Small Businesses.....	2-7
2.2 Cost of Compliance	2-9
2.2.1 Start-Up Costs.....	2-10
2.2.2 Recurring Costs	2-11
2.2.3 Other Identified Potential Costs	2-11
2.3 Cost Mitigation Strategies.....	2-12
2.4 Involvement of Small Businesses in Rule-Making Process.....	2-13
2.4.1 Involvement in Rulemaking.....	2-13
2.4.2 Involvement in SBEIS Development.....	2-16
2.5 Jobs Created or Lost.....	2-17
2.6 Summary Conclusions.....	2-17
References	R-1
ATTACHMENT A Interview Guide	A-1

List of Tables

Table 1. Costs of Compliance	ES-4
Table 2. Rule Elements Not Expected to Generate Costs to Businesses	1-4
Table 3. Number of Affected Small Businesses and Minor Cost Threshold	2-9
Table 4. Cost of Compliance	2-10
Table 5. Assessment of Cost Mitigation Opportunities Outlined in RCW 19.85.030	2-13
Table 6. WDFW Outreach Activities for Development of Electronic Monitoring System Program and Proposed Rule	2-16

List of Acronyms and Abbreviations

CP	Conservation Plan
EM	Electronic Monitoring
ITP	Incidental Take Permit
NAICS	North American Industrial Classification System
ORIA	Office for Regulatory Innovation and Assistance
RCW	Revised Code of Washington
RFA	Regulatory Fairness Act
SBEIS	Small Business Economic Impact Statement
U&A	Usual and Accustomed
QIN	Quinault Indian Nation
WAC	Washington Administrative Code
WDFW	Washington State Department of Fish and Wildlife

Executive Summary

The Washington State Department of Fish and Wildlife (WDFW) is developing a proposed rule package that, 1) would require the installation and use of an electronic monitoring (EM) system on vessels participating in Washington's non-tribal coastal commercial Dungeness crab fishery¹; 2) clarifies existing line marking and buoy color requirements; 3) would prohibit fishing line color or marking in coastal and Puget Sound fixed gear fisheries in a manner that is specified in another fishery; and 4) proposes administrative clarifications to commercial and recreational shellfish fishery rules. This analysis considers whether the proposed rule would result in more than minor costs as defined by RCW 19.85.020; whether it would have a disproportionate cost impact on small businesses as identified by RCW 19.85.040; and options for reducing the costs to small businesses as directed by RCW 19.85.030.

Background

WDFW has identified a need for tools that can achieve accurate and timely accounting of effort (i.e., pots fished) by participants in the coastal commercial Dungeness crab fishery that include where, when, and how much fishing effort is occurring.² This need stems from WDFW's authority to manage this fishery within both state and federal waters off Washington's coast. WDFW's responsibility includes ensuring compliance with state regulations, obligations associated with co-management of the fishery with Tribal governments, and ensuring the fishery operates in compliance with the federal Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA). EM can improve WDFW's management of the fishery by enabling more accurate and timely information collection to ensure fishing is not occurring within closed areas or areas otherwise off-limits to non-tribal fishermen. The technology also allows WDFW to confirm that participants are not fishing prior to the opening of the season, are adhering to license-based or seasonal pot limits, and to gather additional information that may aid in identifying instances of gear tampering.

Large whales and marine turtles are among those species most affected by fishing gear entanglements, and these animals are federally protected under the MMPA and/or ESA. To address entanglement cases with marine mammals where the entangling gear is visible but cannot be used to confidently confirm the associated fishery, the National Marine Fisheries Service has indicated that lines marked in a way that is unique to each of the WDFW-managed crab fisheries would aid in achieving compliance with the MMPA and ESA. In 2020, the Washington Fish and Wildlife Commission adopted a regulation that requires state coastal crab fishers to mark the lines associated with pots with 12 inches of red in at least two places; at the bottom within one fathom from the crab pot, and at the top within one fathom of the main buoy. Marking in this manner supports positive attribution of gear to the fishery. A long-term objective is to expand requirements for unique line marks or colors to other Washington fisheries that use line as part of the gear configuration. In the near-term, attribution can be improved by prohibiting a fishery from using marks/line colors required in another fishery; other coastal states have implemented or intend to implement a similar rule. To effectively manage commercial and recreational shellfish fisheries, WDFW utilizes a variety of management measures relating to fishing area, gear, and catch reporting. As part of the proposed rule package, to improve management and enforcement

¹ The waters surrounding Washington state also support other Dungeness crab fisheries, including Tribal fisheries, a non-tribal recreational fishery, and a commercial fishery in Puget Sound. The subject proposed rule applies only to the non-tribal commercial crab fishery occurring in the Pacific Ocean off Washington's outer coast.

² WDFW. 2022. Electronic Monitoring for Coastal Dungeness Crab Fishery Management. September 21. Downloaded from <https://wdfw.wa.gov/fishing/commercial/crab/coastal/letters-notices>, April 19, 2023.

capabilities, WDFW proposes administrative rule changes for coastal and Puget Sound recreational and commercial shellfish fisheries.

Summary of Proposed Rule

WDFW is proposing a new rule for the Washington coastal commercial Dungeness crab fishery that would require installation and use of an EM system on all participating vessels. The proposed rule does not require use of a particular brand or model of system but identifies technical specifications that must be met by the system. These specifications include a data transmission “ping” rate of once every minute and use of a hydraulic pressure sensor set to record pressure readings once every 10 seconds. It further eliminates the requirement for maintaining and submitting paper logbooks, except in cases where someone is operating under a WDFW-approved exemption from the EM requirements due to system malfunction.

In addition, WDFW proposes modifications to existing rules across a suite of commercial and recreational shellfish fisheries in coastal waters and Puget Sound, and in the coastal commercial fishery for Pacific hagfish. These elements include a variety of other clarifications to simplify and enhance compliance with and enforcement of existing regulations and codify certain best practices that are already being implemented within fixed gear fisheries. These elements include the following:

- Clarifying that the existing requirement of two 12-inch red marks on coastal Dungeness crab lines must be *continuous*;
- Prohibiting the use of line marks or line color combinations in Washington fixed gear fisheries that are required for other state or federal fisheries³;
- Describing a management category of a “non-spot shrimp” complex to reduce the need to list each species in the complex individually;
- Specifying that the required creation and registration of a unique buoy color scheme for coastal and Puget Sound commercial Dungeness crab fishery participants must be completed annually;
- Clarifying that for commercial shrimp fisheries in Puget Sound, buoy color, already required to be orange, must be *solid* orange and for Puget Sound recreational shrimp pots, already required to be yellow, must be *solid* yellow;
- Standardizing recreational crab pot buoys color (red and white) for Puget Sound and the coast;
- Codifying the best practice across multiple fixed gear fisheries to use no more than the amount of line required to compensate for tides, currents, and weather; and
- Making several clarifying and simplifying changes for Puget Sound commercial crab and shrimp rules, including updates to outdated and/or incorrect boundary designations for commercial shellfish gear-specific management areas in Puget Sound, clarifying Puget Sound commercial logbook reporting requirements, updating commercial crab buoy tag replacement rules, and housekeeping clarifications stemming from electronic fish ticket implementation.

³ Fixed gear fisheries in Washington include any fisheries using lines to tether surface buoys to bottom deployed hooks, pots, or traps, such as sablefish longline, crab pot, shrimp pot, and hagfish pot.

Need for an SBEIS

RCW 19.85 requires that the relevant agency prepare an SBEIS if the proposed rule “will impose more than minor costs on businesses in an industry.”⁴ “Minor cost” is defined in RCW 19.85.020 as a cost per business that is less than 0.3 percent of annual revenue or income, or \$100, whichever is greater, or one percent of annual payroll.⁵ This analysis relies on revenue data to define the minor cost threshold, as this information is more readily available than payroll data.

An evaluation by WDFW determined that the EM component of the proposed rule is the only element that would result in costs to businesses. The other elements of the rule package are not expected to result in costs to businesses. Therefore, this evaluation of whether the proposed rule is likely to result in more than minor costs is focused on the EM component of the rule package.

Data provided by WDFW indicates that the average annual ex-vessel revenues derived from coastal commercial crabbing for the past five years per license is \$277,060.⁶ However, all fishery participants interviewed described that activity in other fisheries also contributes to their business revenues. Interviewees identified a range of annual revenues of between \$150,000 and \$500,000 for an average business participating in both Dungeness crabbing and other fisheries.⁷ Based on this range of annual revenues, this analysis estimates a minor cost threshold of between \$450 and \$1,500 for affected businesses.⁸ Given costs of compliance between \$1,830 to \$2,045 (see below), the proposed rule is expected to result in more than minor costs to businesses, necessitating the development of an SBEIS.

Potentially Affected Businesses

The businesses affected by the EM element of the proposed rule include those that own and operate vessels that participate in the coastal commercial Dungeness crab fishery. These businesses include those that own or lease/fish any of the 223 valid limited entry commercial crab licenses. This analysis finds that up to 223 individual businesses may incur costs due to the proposed rule, as typically businesses own or lease a single license, and that generally these businesses are small (99.6 percent are small by Washington state’s definition).

Cost of Compliance

The costs associated with installation and operation of an EM system include both start-up costs and costs that are incurred on a recurring basis (e.g., annually). These costs include the purchase and installation of the unit (start-up costs), the cost of a 5G cellular data plan, and the cost of maintenance (although maintenance costs would be covered by warranty in Year 1). The likely cost of complying with the rule ranges from \$1,830 to \$2,045 (Table 1) in start-up costs to purchase and install the equipment and pay for the first year of the data plan. In subsequent years, costs would be on the order of \$450 to \$600 for maintaining the system and the data plan. Differences between the low and high end estimates are based on three factors: 1) whether the industry can organize to complete a bulk purchase of units to take advantage of bulk discount pricing, 2) whether the vessel

⁴ RCW 19.85.030 Agency Rules – Small Business economic impact statement reduction of costs imposed by rule. Accessed May 3, 2023, at: <https://app.leg.wa.gov/RCW/default.aspx?cite=19.85.030>.

⁵ RCW 19.85.020 Definitions. Accessed May 3, 2023, at: <https://app.leg.wa.gov/rcw/default.aspx?cite=19.85.020>.

⁶ Annual ex-vessel revenues for individual licenses range from \$4,505 to \$1.7 million over that time period.

⁷ One individual identified an upper end revenue estimate of \$3 million for a small business in the industry. However, this estimate is substantially outside of the range provided by all other interviewees and is considered an outlier.

⁸ The minor cost threshold used in this analysis is 0.3 percent of average annual revenues. The reported range represents 0.3 percent of \$150,000 (\$400) as a low end and 0.3 percent of \$500,000 (\$1,500) as a high end.

owner elects to install the unit him/herself or pay a third party to complete the installation, and 3) whether the vessel owner signs on for a data plan covering only the crabbing season, or for a complete year of data service.

Table 1. Costs of Compliance

Cost Element Per Unit	Cost in Year 1	Basis for Cost Range	Frequency of Cost
EM Unit	\$935 - \$975	Pricing provided by representative EM system manufacturer and vendor. Range represents individual unit price and price with bulk purchase discount.	Every 5-10 years
Installation	\$0 - \$300	Estimated based on industry interviews and estimate from representative EM system manufacturer and vendor. Range based on cost for vessel owner installation vs. use of a marine electrician/vendor-provided service technician (2-2.5 hours).	Every 5-10 years
Data Plan	\$295 - \$470	Pricing provided by representative EM system manufacturer and vendor. Range represents cost for crab season only vs. full year.	Annual
Maintenance	\$0	Routine maintenance covered by warranty during first year. After Year 1, recommended annual system checks estimated by representative EM system manufacturer and vendor at \$150.	Annual (after first year)
Total Cost in Year 1	\$1,830 - \$2,045		Year 1

Sources:

1. Interviews with industry representatives.
2. Price information provided by Archipelago Marine Research Ltd. via email to IEc, May 2, 2023.

Summary Findings

Given the minor cost threshold of \$450 to \$1,500, the compliance costs of the proposed rule are likely to be more than minor for businesses in the industry. As the businesses in the coastal commercial Dungeness crab fishery are almost exclusively small businesses (fewer than 50 employees), this analysis finds that the proposed rule would have a disproportionate cost impact on small businesses. Given this finding, this analysis identifies potential mitigation options to defray the costs to small businesses. These include identifying technical specifications that allow for the cessation of the logbook requirements, allowing flexibility in the type of unit purchased, coordinating unit purchases to take advantage of bulk pricing, and allowing fishermen to revert to use of paper logbooks in cases of EM system malfunction.

CHAPTER 1 | Introduction

This report evaluates the potential costs to businesses of compliance with a Washington State Department of Fish and Wildlife (WDFW) proposed rule that codifies a requirement for installation and use of an electronic monitoring (EM) system on all vessels participating in the non-tribal coastal commercial Dungeness crab fishery⁹, implements a variety of other clarifications to simplify and enhance compliance with and enforcement of existing regulations, and codifies certain best practices that are already being implemented within fixed gear fisheries. This Small Business Economic Impact Statement (SBEIS) was developed in accordance with the Regulatory Fairness Act (RFA), Revised Code of Washington (RCW) Section 19.85 to determine whether the proposed rule would result in more than minor costs as defined by RCW 19.85.020; whether it would have a disproportionate cost impact on small businesses as identified by RCW 19.85.040; and options for reducing the costs to small businesses as directed by RCW 19.85.030. The primary sources of information for this analysis include the following:

- Information gathered through outreach to businesses that would incur costs under the proposed rule, including those that have participated in a pilot program to test EM systems, and others with no prior experience using EM systems;
- Pricing information from the manufacturer and vendor of one system that would meet WDFW's technical specifications laid out in the proposed rule;¹⁰ and
- Dungeness crab fishery license and ex-vessel revenue data provided by WDFW.

1.1 Need for the Rule

WDFW has identified a need for tools that can achieve accurate and timely accounting of effort by participants in the coastal Dungeness crab fishery that include where, when, and how much fishing effort is occurring.¹¹ This need stems from WDFW's authority to manage this fishery within both state and federal waters off Washington's coast. This responsibility includes ensuring compliance with WDFW's own regulations, obligations associated with co-management of the fishery with Tribal governments, and ensuring the fishery operates in compliance with the federal Marine Mammal Protection Act (MMPA) and Endangered Species Act (ESA).

Management of this fishery requires that WDFW be able to effectively and efficiently enforce regulations that dictate where and when fishing can occur, and the level of effort in terms of number of pots fished. EM can improve WDFW's ability to enforce its regulations by enabling collection of more accurate and timely information to ensure fishing is not occurring within closed areas, confirm that participants are not fishing prior to the opening of the season, confirming adherence to license-based or seasonal pot limits, and gather additional information that may aid in identifying instances of gear tampering.

⁹ The waters surrounding Washington state also support other Dungeness crab fisheries, including Tribal fisheries, a non-tribal recreational fishery, and a commercial fishery in Puget Sound. The subject proposed rule applies only to the non-tribal commercial crab fishery occurring in the Pacific Ocean off Washington's outer coast.

¹⁰ As the lowest cost system tested by WDFW that would meet the technical specifications laid out in the proposed rule, this analysis assumes it is the system most fishery participants would purchase to comply with the rule.

¹¹ WDFW. 2022. Electronic Monitoring for Coastal Dungeness Crab Fishery Management. September 21. Downloaded from <https://wdfw.wa.gov/fishing/commercial/crab/coastal/letters-notices>, April 19, 2023.

WDFW co-manages the fishery with the Tribal governments whose usual and accustomed (U&A) fishing grounds are located on the outer coast of Washington. As a co-manager of the fishery, WDFW must ensure accurate reporting of where and when state-licensed fishermen are fishing, and that non-Tribal fishery participants do not cross into areas that are reserved for Tribal fishing only.

WDFW must also implement actions to reduce the entanglement of whales in Dungeness crab fishing gear. The EM system will more accurately identify the locations in which fishing gear is deployed thereby improving data inputs to models that estimate or predict the distribution and likelihood of co-occurrence. With such information, WDFW could consider management measures to reduce the amount of gear that could be deployed in areas of concern.

Finally, implementation of EM systems will improve WDFW's ability to manage the fishery with respect to biotoxins (particularly domoic acid). Specifically, a biotoxin event could result in a complete closure of the fishery but biotoxins don't always affect the entire coast. With EM, WDFW would have the ability to manage biotoxin events using area closures to prohibit the fishery in discrete areas affected by biotoxins. Like other area management needs, EM ensures fishing around biotoxin restricted areas is enforceable and protects public health.

WDFW is also proposing regulatory changes to enhance compliance with the federal ESA and MMPA. Large whales and marine turtles are among those species most affected by fishing gear entanglements, and these animals are federally protected under the MMPA and/or ESA. To address entanglement cases with marine mammals where the entangling gear is visible but cannot be used to confidently confirm the associated fishery, the National Marine Fisheries Service has indicated that lines marked in a way that is unique to each of the WDFW-managed crab fisheries would aid in achieving compliance with the MMPA and ESA. In 2020, the Washington Fish and Wildlife Commission adopted a regulation that requires state coastal crab fishers to mark the lines associated with each of their pots with 12 inches of red in at least two places; at the bottom within one fathom from the crab pot, and at the top within one fathom of the main buoy. Marking in this manner supports positive attribution of gear to the fishery. A long-term objective is to expand requirements for unique line marks or colors to other Washington fisheries that use line as part of the gear configuration. In the near-term, attribution can be improved by prohibiting a fishery from using marks/line colors required in another fishery; other coastal states have implemented or intend to implement a similar rule.

To effectively manage commercial and recreational shellfish fisheries, WDFW utilizes a variety of management measures relating to fishing area, gear, and catch reporting. As part of the proposed rule package, to improve management and enforcement capabilities, WDFW is also proposing administrative rule changes for coastal and Puget Sound recreational and commercial shellfish fisheries.

1.2 Summary of the Proposed Rule

The proposed rule requires installation and use of an EM system on vessels participating in the Washington coastal commercial Dungeness crab fishery. The proposed rule does not specify a particular brand or model of system that would be required, but instead, identifies technical specifications that must be met by the system. These specifications include a data transmission “ping” rate of once every minute, and use of a hydraulic pressure sensor set to record pressure readings once every 10 seconds. The proposed rule does not include a requirement for video monitoring, nor does it require the use of an electronic logbook. Finally, the proposed rule eliminates the requirement for completion and submission of a paper logbook, except where a vessel is operating under an exemption of the EM system requirements.

Key Components of the EM Component of the Proposed Rule

- ✓ Requires installation and use of an EM system on all non-tribal coastal commercial Dungeness crab vessels.
- ✓ Outlines technical specifications that must be met by the EM system.
- ✓ Eliminates the requirement for maintaining and submitting paper logbooks.

In addition, WDFW proposes modifications to existing rules across a suite of commercial and recreational shellfish fisheries in coastal waters and Puget Sound, and in the coastal commercial fishery for Pacific hagfish. For commercial and recreational fixed gear fisheries in Puget Sound and non-crab fixed gear fisheries in the Pacific Ocean, this includes a requirement to use only the length of line necessary to compensate for tides, currents, and weather.

As previously described, coastal Dungeness crab lines must include two 12-inch red marks. The proposed rule clarifies that the red mark must be *continuous*.¹² The proposed rule would also prohibit the use of line marks or line color combinations in Washington fixed gear fisheries that are required for other state or federal fisheries.¹³

To simplify rulemaking, WDFW is proposing a new definition that describes a management category of shrimp species. Currently, there are six species of “non-spot shrimp” classified in Washington regulations and one spot shrimp that support significant recreational and commercial fisheries. The rule would define a “non-spot shrimp” complex and thereby reduce the need to list each species in the complex individually.

Establishing fishery specific colors for buoys is a common management tool for pot gear fisheries. Participants in the commercial Dungeness crab fishery are already required to create and register a unique buoy color scheme. However, the current rule is silent on the frequency with which buoy color schemes are to be registered. The proposed rule adds clarity by specifying an annual registration. The rule also clarifies that for commercial shrimp fisheries in Puget Sound, buoy color, already required to be orange, must be *solid* orange. A similar change for Puget Sound recreational shrimp pots specifies buoys must be *solid* yellow. The proposed rule also standardizes recreational crab pot buoys color (red and white) for Puget Sound and the coast.

The proposed rule package also includes several simplifying and clarifying rule changes for Puget Sound commercial crab and shrimp rules. These changes include updates to outdated and/or incorrect boundary designations for commercial shellfish gear-specific management areas in Puget Sound, clarifying Puget Sound

¹² This element is intended to ensure that individuals are not skirting the intent of the existing rule by, for example, using a single 12-inch zip tie attached to the line as a gear marking approach.

¹³ Fixed gear fisheries in Washington include any fisheries using lines to tether surface buoys to bottom deployed hooks, pots or traps, such as sablefish longline, crab pot, shrimp pot, hagfish pot.

commercial logbook reporting requirements, and updating Puget Sound commercial crab buoy tag replacement rules.

1.3 Proposed Rule Elements Resulting in Costs to Businesses

Of the elements included within the proposed rule package, the requirements for installation and use of an EM system in the coastal commercial Dungeness crab fishery alone are expected to result in costs to businesses. These costs are identified and evaluated in detail in Chapter 2. Other rule components generally consist of clarifying existing regulations or codifying commonly implemented best practices. Compliance with these rule components is unlikely to result in costs. Table 2 identifies those rule elements that are not expected to result in costs to businesses and describes the basis for that conclusion.

The rule proposal requiring commercial Dungeness crabbers to register their buoy color schemes annually potentially affects crabbers that have previously only had to register buoys infrequently to maintain a unique color scheme associated with their license. However, to offset the impact of annual reporting, WDFW has developed an electronic form that replaces the more cumbersome existing process of attaching a photo to an email or mailing in a hard copy picture, resulting in no net costs associated with this element. Likewise, the rule elements specifying buoy colors across several recreational and commercial fisheries aligns regulations with long-standing practice in these fisheries and WDFW expects very few if any participants would need to replace existing gear to comply with the proposed rule. The proposed logbook rule reduces reporting requirements, and the buoy tag replacement rule shifts reporting from paper to an electronic form. Thus, the cost of compliance is either reduced or neutral for affected commercial fishers.

Table 2. Rule Elements Not Expected to Generate Costs to Businesses

Proposed Rule Elements	Relevant Fisheries	Costs to Businesses
Fishers must use only the amount of line necessary to compensate for tides, currents, and weather.	Recreational Crab, Shrimp & Crawfish Fisheries Puget Sound Commercial Dungeness Crab Fishery Commercial Shrimp Pot Fishery– Puget Sound Commercial Ocean Shrimp Pot Fishery Trial Commercial Hagfish Fishery	Rule element aligns regulations with long-standing practice in these fisheries.
It is unlawful to use gear that has one or more line marks consistent with requirements for any state or fed managed commercial fishery (in US) in the state waters of WA, OR, or CA.	Recreational Crab, Shrimp & Crawfish Fisheries Coastal Commercial Dungeness Crab Fishery Commercial Shrimp Pot Fishery– Puget Sound Commercial Ocean Spot Shrimp Pot Fishery Trial Commercial Hagfish Fishery	Rule element intended to pre-emptively prevent future conflicts when state line marking regulations are implemented.
There must be at least 12 inches of continuous red marks on every line in at	Coastal Commercial Dungeness Crab Fishery	Rule element clarifies existing regulation and is intended to

least two places no more than one fathom from the main buoy and from the pot.		correct future misinterpretation. Fishers are generally in compliance with the intent of the current regulation.
Recreational shrimp buoys must be solid yellow or solid fluorescent yellow. Commercial Shrimp Pot Fishery in the Puget Sound buoys must be solid orange.	Recreational Crab, Shrimp & Crawfish Fisheries Commercial Shrimp Pot Fishery- Puget Sound	Rule element aligns regulations with long-standing practice in these fisheries and WDFW expects very few if any participants would need to replace existing gear to comply with the proposed rule.
Buoys in the Puget Sound or Coastal Commercial Crab fisheries can't be both red and white in color unless a minimum of 30% of the surface is also marked with another color(s) other than red or white.	Coastal Commercial Dungeness Crab Fishery Puget Sound Commercial Dungeness Crab Fishery	No additional costs as red and white buoys are not widely used in these fisheries.
The license holder must register the buoy brand and buoy color(s) to be used with the license annually.	Coastal Commercial Dungeness Crab Fishery Puget Sound Commercial Dungeness Crab Fishery	Crabbers that have previously only had to register buoys infrequently to maintain a unique color scheme will have to increase the frequency of their registration. However, costs will be offset by implementation of a mobile app that replaces the more cumbersome existing process of attaching a photo to an email or mailing in a hard copy picture. The net costs of this rule element are zero.
Clarifying and simplifying changes including updates to outdated and/or incorrect boundary designations for commercial shellfish gear-specific management areas in Puget Sound, clarifying Puget Sound commercial logbook reporting requirements, and updating commercial crab buoy tag replacement rules.	Recreational Crab, Shrimp & Crawfish Fisheries Coastal Commercial Dungeness Crab Fishery Puget Sound Commercial Dungeness Crab Fishery Commercial Shrimp Pot Fishery- Puget Sound Commercial Ocean Spot Shrimp Pot Fishery	Rule element clarifies and simplifies existing regulations and would not result in changes in behavior or associated costs.

1.4 Requirement for Developing an SBEIS

19.85 RCW requires that the relevant agency prepare an SBEIS if the proposed rule “will impose more than minor costs on businesses in an industry.”¹⁴ “Minor cost” is defined in RCW 19.85.020 as a cost per business that is less than 0.3 percent of annual revenue or income, or \$100, whichever is greater, or one percent of annual payroll.¹⁵ This analysis relies on revenue data to define the minor cost threshold, as this information is more readily available than payroll data.

As described previously, WDFW has found that the EM component of the proposed rule is the only element that would result in costs to businesses; the other rule proposals in the package are not expected to result in costs to businesses. Therefore, the evaluation of whether the proposed rule is likely to result in more than minor costs is focused on the EM component of the rule package and the industry expected to incur costs as a result of the rule.

The estimate for average annual revenues for businesses in the coastal commercial Dungeness crab industry is based on ex-vessel revenue data provided by WDFW and information provided by industry representatives. Data provided by WDFW indicates that the average annual ex-vessel revenues derived from coastal commercial crabbing only for the past five years per license is \$277,060.¹⁶ However, all fishery participants interviewed described that fishing activity in other fisheries also contribute to the revenues of their business. Interviewees identified a range of annual revenues of between \$150,000 and \$500,000 for an average business participating in both Dungeness crabbing and other fisheries.¹⁷ Based on this range of annual revenues, this analysis estimates a minor cost threshold of between \$450 and \$1,500 for affected businesses (Table 3).¹⁸ As described in Section 2.2, the likely cost of complying with the proposed rule ranges from \$1,830 to \$2,045. These costs are identified as more than minor, requiring development of an SBEIS.

¹⁴ RCW 19.85.030 Agency Rules – Small Business economic impact statement reduction of costs imposed by rule. Accessed May 3, 2023, at: <https://app.leg.wa.gov/RCW/default.aspx?cite=19.85.030>.

¹⁵ RCW 19.85.020 Definitions. Accessed May 3, 2023, at: <https://app.leg.wa.gov/rcw/default.aspx?cite=19.85.020>.

¹⁶ Ex-vessel revenues for individual licenses range from \$4,505 to \$1.7 million over that time period.

¹⁷ One individual identified an upper end revenue estimate of \$3 million for a small business in the industry. However, this estimate fell substantially outside of the range provided by all other interviewees and was excluded from the analysis.

¹⁸ The universe of affected businesses does include a single business, Pacific Seafood, that represents a different industry than those primarily affected by this rule (NAICS code 424460 – Fish and Seafood Merchant Wholesalers). Given annual revenues of over \$1 billion, the minor cost threshold for businesses affected in this industry would be substantially higher (personal communication with Pacific Seafood representative in May 2023). However, this single affected business within this industry is not small given employment of over 3,000 people (Pacific Seafood. 2023. Pacific Seafood Homepage. Viewed at <https://www.pacificseafood.com/>, April 22, 2023; Interview with Pacific Seafood representative, April 26, 2023).

CHAPTER 2 | Small Business Impacts

This chapter evaluates the potential economic impacts of the proposed rule on small businesses in Washington State. The requirements for the SBEIS are included in RCW 19.85.30 and 19.85.040.¹⁹ This analysis also utilizes the guidance and resources provided by Washington State’s Office for Regulatory Innovation and Assistance (ORIA).²⁰ Per the SBEIS *Frequently Asked Questions* guidance, agencies are required to consider “costs imposed on businesses and costs associated with compliance with the proposed rules.”²¹ Agencies are not required under 19.85 RCW to consider indirect costs not associated with compliance with the rule.²²

As outlined in the RFA and in accordance with other guidance and best practices, this SBEIS addresses the following questions.^{23,24, 25}

- What are the industries and universe of businesses that may incur costs as a result of this rule?
- What are the likely costs of the rule to those businesses?
- Are the costs resulting from the rule anticipated to be more than minor?
- Will the rule disproportionately affect small businesses?
- What steps has the agency taken to reduce the costs of the rule on small businesses?
- How has the agency involved small businesses in the development of the rule?
- How many jobs may be created or lost as a result of compliance with the rule?

The sections that follow address each of these questions.

2.1 Potentially Affected Small Businesses

As described in Chapter 1, the proposed rule includes minor changes and clarifications to existing rules which will help stakeholders better understand regulations. These other rule elements are not expected to result in additional costs. As such, this section focuses on the EM element of the proposed rule.

¹⁹ RCW 19.85.040 Small business economic impact statement—Purpose—Contents. Accessed May 3, 2023, at: <https://app.leg.wa.gov/RCW/default.aspx?cite=19.85.040>

²⁰ ORIA. 2021. Regulatory Fairness Act Support. Accessed May 3, 2023, at: https://www.oria.wa.gov/site/alias__oria/934/regulatory-fairness-act-support.aspx.

²¹ WA Attorney General Office. 2021. Small Business Economic Impact Statements – Frequently Asked Questions. Accessed May 3, 2023, at: https://www.oria.wa.gov/Portals/_oria/VersionedDocuments/RFA/Regulatory_Fairness_Act/DRAFT_SBEIS_FAQ.pdf.

²² ORIA. Undated. “Regulatory Fairness Act: 19.85 RCW.” Presentation provided to IEc by ORIA staff on August 19, 2021.

²³ RCW 19.85.040 Small business economic impact statement—Purpose—Contents. Accessed October 13, 2022 at: <https://app.leg.wa.gov/RCW/default.aspx?cite=19.85.040>.

²⁴ ORIA. 2021. Regulatory Fairness Act Support. Accessed October 13, 2022 at: https://www.oria.wa.gov/site/alias__oria/934/regulatory-fairness-act-support.aspx.

²⁵ WA Attorney General Office. 2021. Small Business Economic Impact Statements – Frequently Asked Questions. Accessed October 13, 2022 at: https://www.oria.wa.gov/Portals/_oria/VersionedDocuments/RFA/Regulatory_Fairness_Act/DRAFT_SBEIS_FAQ.pdf.

The universe of businesses affected by the proposed rule include those engaged in the non-tribal commercial harvest of Dungeness crab on the Washington coast. These businesses fall within the North American Industry Classification System (NAICS) code 114112, Shellfish Fishing.²⁶ However, as this code includes a substantial number of other types of fisheries and businesses (e.g., oyster, clam, shrimp), the number of businesses identified under this code is not representative of the affected industry. A more accurate identification of potentially affected small businesses considers more specifically those businesses participating in the coastal non-tribal Dungeness crab fishery.

The coastal Dungeness crab fishery is a limited entry fishery with a hard cap of 223 licenses.²⁷ Some of these licenses are fished by the license holder while others are leased to other individuals who generally fish the license using their own vessel.²⁸ Industry representatives identified that it is most likely the vessel owner, rather than the license owner, that would incur the costs of installation, maintenance, and operation of an EM system.²⁹

Identification of the number of small businesses affected by the proposed rule is complicated by the fact that data are not available to identify the number or ownership of vessels that participate in the fishery. As such, we rely on license data provided by WDFW and information provided by industry representatives to make a conservative assumption regarding the number of businesses potentially affected by the rule. Interviews with industry participants suggest that most businesses within the industry that own or lease a Dungeness crab license own a single vessel that would require the EM system described in the proposed rule.³⁰ As such, this analysis assumes that each license is associated with a single vessel that represents a business affected by the rule, and that each license is likely to be fished at some point in the years following regulation. Accordingly, we anticipate 223 businesses would be affected by the rule, as shown in Table 3.³¹

Small businesses are defined as those that employ less than 50 people. Industry representatives indicate that affected businesses (i.e., vessel owners) may employ between one and three crew seasonally and, therefore, all would be considered small businesses, with one exception. Pacific Seafood is the owner of at least one vessel that participates in this fishery and would be a business affected by the proposed rule. As a company with upwards of 3,000 employees, Pacific Seafood is defined as a large business by the state's definition.^{32, 33}

²⁶ The universe of affected businesses does include a single business, Pacific Seafood, that represents a different industry than those primarily affected by this rule (NAICS code 424460 – Fish and Seafood Merchant Wholesalers). However, this single affected business within this industry is not small given employment of over 3,000 people (Pacific Seafood. 2023. Pacific Seafood Homepage. Viewed at <https://www.pacificseafood.com/>, April 22, 2023; Interview with Pacific Seafood representative, April 26, 2023).

²⁷ License data provided by WDFW via secure server on April 25, 2023.

²⁸ Interviews with industry representatives conducted during April 2023.

²⁹ The requirement to install EM systems on commercial crab vessels would increase the cost of fishing for affected businesses. In theory, this increased cost could result in individuals ceasing to fish, ceasing to lease licenses, or decrease the amount they are willing to pay to lease a license. However, the value of Dungeness crab fishing licenses and demand for them indicate these outcomes are unlikely (Interviews with industry representatives conducted during April 2023).

³⁰ Although interviewees identified that at least one business, Pacific Seafood, may be the owner of multiple vessels fishing within the fishery, a representative of the business confirmed only a single vessel owned by the company is currently participating in this fishery (Interview with representative of Pacific Seafood, May 3, 2023).

³¹ To the extent that a business owns more than one vessel, this analysis underestimates the costs of the proposed rule to that business. However, the best available information suggests that the substantial majority if not all businesses in this industry own only one vessel and would thus incur costs associated with installation of an EM system on a single vessel.

³² Pacific Seafood. 2023. Pacific Seafood Homepage. Viewed at <https://www.pacificseafood.com/>, April 22, 2023; Interview with Pacific Seafood representative, April 26, 2023.

³³ License data provided by WDFW indicate that at least one other business identified as large by WDFW standards owns a license to participate in this fishery. However, available information did not suggest that this business owns vessels operating within the fishery. We therefore conclude it would not incur costs as a result of this rule.

Table 3. Number of Affected Small Businesses and Minor Cost Threshold

	Number of Licenses ¹	Number of Businesses ²	Number of Businesses that are Small	Percent of Businesses that are Small	Average Annual Revenues	Minor Cost Threshold
Total	223	223	222	99.6%	\$150,000-\$500,000	\$450 - \$1,500

Notes:

1. License data provided by WDFW via secure server on April 25, 2023.
2. Number of businesses based on assumption that each license is associated with a single vessel and single business.

2.2 Cost of Compliance

Consistent with RCW 19.85.030(1)(a), this analysis evaluates the relevance of the following potential categories of costs to comply with the proposed rule:

- Reporting, recordkeeping, and other compliance requirements.
- Professional services that a small business is likely to need in order to comply with such requirements.
- Costs required to comply with the proposed rule, including costs of equipment, supplies, labor, professional services, and increased administrative costs.
- Based on input received, determine whether compliance with the rule will cause businesses to lose sales or revenue.

Key Findings

- ✓ Costs of compliance includes the cost of the EM system, installation, and a 5G data plan.
- ✓ Costs of annual maintenance would be incurred after the first year.
- ✓ Some costs would only be incurred at start-up (e.g., cost of unit) while others such as the data plan and maintenance would be incurred annually or as needed.
- ✓ The total cost of the proposed rule in Year 1 following implementation is \$1,830 - \$2,045 per business.

The costs associated with installation and operation of an EM system include both start-up costs, and costs that are incurred on a recurring basis (e.g., annually). As such, costs of the EM system will differ depending on which year is being observed for cost estimates. This analysis considers the costs that would be incurred during the first year of operation which is expected to be the year of greatest compliance costs. The costs of the proposed rule are summarized in **Error! Reference source not found.**

Table 4. Cost of Compliance

Cost Element Per Unit	Cost in Year 1	Basis for Cost Range	Frequency of Cost
EM Unit	\$935 - \$975	Pricing provided by representative EM system manufacturer and vendor. Range represents individual unit price and price with bulk purchase discount.	Every 5 to 10 years
Installation	\$0 - \$300	Estimated based on industry interviews and estimate from representative EM system manufacturer and vendor. Range based on cost for vessel owner installation vs. use of a marine electrician/Archipelago service technician (2-2.5 hours).	Every 5-10 years
Data Plan	\$295 - \$470	Pricing provided by representative EM system manufacturer and vendor. Range represents cost for crab season only vs. full year.	Annual
Maintenance	\$0	Routine maintenance covered by warranty during first year. After Year 1, recommended annual system checks estimated by representative EM system manufacturer and vendor at \$150.	Annual (after first year)
Total Cost in Year 1	\$1,830 - \$2,045		Year 1

Sources:

1. Interviews with industry representatives.
2. Price information provided by Archipelago Marine Research Ltd. via email to IEc, May 2, 2023.

2.2.1 Start-Up Costs

Start-up costs associated with compliance with the proposed rule are the purchase of the EM system itself and the cost of installation. The estimate of the unit cost is based upon a low-cost existing product that currently meet all requirements set forth through the proposed rule. This system has been tested by industry participants and confirmed by WDFW to be a sound option for regulated businesses.³⁴

The cost of the EM system could range from \$895 to \$975. Costs of an individual EM unit are currently \$975.³⁵ The low-end cost derives from the possibility of a bulk purchase, which would decrease the cost per unit resulting in a price as low as \$895 if over 300 units were purchased. A bulk order of between 200 and 299 units would result in a cost per unit of \$935.

The installation cost will range from \$0 to \$300. The low end of \$0 assumes that vessel owners install both the EM unit and the hydraulic transducer themselves.³⁶ Other vessel owners may hire a marine electrician or

³⁴ Email communication from WDFW to IEc, April 6, 2023.

³⁵ The pricing for the unit hardware is based on estimates provided by Archipelago Marine Research Ltd., and includes the FishVue LIME control center, a 5,000 PSI hydraulic pressure transducer, BRNKL security and monitoring features, shipping, and a one-year warranty.

³⁶ Several industry participants interviewed indicated they would likely install the unit themselves, and one representative system vendor confirmed that many of their past customers are able to and choose to do so.

manufacturer to install the unit at an hourly rate. Given a likely installation time of between 2 and 2.5 hours,³⁷ and a per hour cost of \$120,³⁸ this analysis estimates a high-end cost for installation of \$300.

These costs represent the expected costs for the first year in which the EM system is required. In years in which the system would need to be replaced (estimated to be approximately five to 10 years from initial installation³⁹), costs would be similar to the initial start-up costs quantified in this analysis.

2.2.2 Recurring Costs

Recurring costs are costs incurred each year for continued compliance with the proposed rule and would include the monthly data plan charges and any necessary maintenance. The cost of the monthly 5G data plan has a range that will depend on the situation of the vessel and their use of the EM. One manufacturer, Archipelago Marine Research Ltd., will offer a month-to-month subscription at a cost of \$69/month. Another plan option would include use only during the Dungeness crab fishing season at a cost of \$295 for the season. Lastly, for any vessel that wishes to have access to the EM system and its capabilities year-round, the annual cost is \$470. This analysis assumes most participants would choose a plan that covers the complete Dungeness crab fishing season or entire year, resulting in a cost range of \$295 to \$470/year.

Any EM system maintenance costs in the initial year are mostly likely covered by product warranty.⁴⁰ In later years, maintenance costs would be dependent upon the issue being addressed. One manufacturer recommends that the unit undergo an annual routine check to make sure that the system is performing properly at an estimated cost of about cost of \$150 per year for this optional service.

2.2.3 Other Identified Potential Costs

In addition to the costs identified above, industry interviewees identified several other costs they believe could result from the proposed rule. However, for the reasons described below, the analysis finds that these types of costs are unlikely to result from the proposed rule.

- **Potential for lost time fishing/revenue associated with system malfunction.** Interviewees expressed concern that in the event of a system malfunction, fishing activity might need to cease until system function could be restored. WDFW has expressed that in the event of an inoperable system, the captain could receive an exemption permit from WDFW revert to completion of a paper logbook to track fishing activity, allowing fishing to continue.⁴¹ As a result, we do not identify this factor as a cost of the proposed rule.
- **Potential for lost time fishing/revenue associated with operating out of cellular coverage.** Several interviewees identified that they often fish in areas outside of cellular coverage. They expressed concern that operating in these areas could be considered out of compliance with the proposed regulations if data were not being transmitted in real-time to WDFW. One manufacturer, Archipelago Marine Research Ltd., confirmed that the EM system is designed to store data and transmit them when the unit re-enters

³⁷ Interview with representative of Archipelago Marine Research Ltd. on April 28, 2023.

³⁸ Interviews with industry representatives conducted during April 2023.

³⁹ Interview with representative of Archipelago Marine Research Ltd. on April 28, 2023.

⁴⁰ This would be true for the representative system considered in this analysis from Archipelago Marine Research Ltd.

⁴¹ Personal communication with WDFW staff, March 29, 2023.

cellular service range. WDFW has confirmed that this situation would be in compliance with the proposed rule.⁴² As a result, we do not anticipate these types of costs to result from the proposed rule.

- **Potential for lost time fishing/revenue associated with limited availability of marine electricians in certain areas.** At least one interviewee expressed concern that the limited availability of marine electricians in certain areas could mean that wait times for unit installation could be long, which might delay the start of the fishing season for some vessels. One EM system manufacturer, Archipelago Marine Research Ltd., confirmed that their own technicians are made available to install any purchased units, and that there would not be significant wait times for installation. We anticipate it is unlikely for these types of costs to result from the proposed rule.

2.3 Cost Mitigation Strategies

When a rule is expected to disproportionately impact small businesses, RCW 19.85.030 requires the agency to consider methods for reducing the impact of the rule on small businesses. These methods may include decisions that were made in determining the provisions of the rule itself, or opportunities to reduce the costs of implementing the rule as written. This section outlines existing and proposed opportunities for offsetting compliance costs, as well as the steps WDFW has taken to limit the costs of the proposed rule to businesses.

- **Required Technical Specifications.** In identifying the technical specifications for an EM system that would be required by the proposed rule, WDFW designed the specifications to allow for discontinuation of current logbook requirements.
- **Choice in Systems.** Rather than dictate a requirement that a specific brand/type of system be installed on each vessel, WDFW instead has identified technical specifications the system must meet, providing each business with flexibility in selecting from several possible systems from different suppliers across a spectrum of price points.
- **Costs of System Malfunction.** Interviewees expressed concern about the potential for lost revenues should a malfunction of the EM system require suspension of fishing activities. It is WDFW's intent to allow fishermen to revert to use of paper logbooks via a WDFW-approved exemption permit in the event of an EM system failure, allowing fishing activity to continue assuming appropriate action is being taken to get the EM system back online.
- **Bulk Pricing.** The cost analysis assumes that each business would individually purchase the EM unit and annual data plan. However, coordinated purchase of the units (e.g., by crab industry associations) would result in a bulk purchase discount. For example, Archipelago Marine Research Ltd. offers a discounted pricing option for purchases of between 100 and 199 units (\$955 plus \$470 Data Plan), or for between 200 and 299 units (\$935 plus \$470 Data Plan).
- **Financial Support.** Interviewees expressed that WDFW should consider grant or financial aid opportunities to the fleet to offset the costs of the proposed rule.

RCW 19.85.030(2) specifies options that the agency must consider in mitigating rule costs. Table 5 specifies each type of cost mitigation opportunity identified in the RCW and how WDFW considered them during the rulemaking process.

⁴² Written communication from WDFW staff, May 19, 2023.

Table 5. Assessment of Cost Mitigation Opportunities Outlined in RCW 19.85.030

RCW 19.85.030 (2) Requirements	Cost Mitigation Opportunities
a) Reducing, modifying, or eliminating substantive regulatory requirements	<p>WDFW is not including video monitoring at this time as a system requirement, reducing costs of the system itself, and associated with implementing new technology (e.g., more complex technology such as video monitoring could mean increased opportunity for technical problems that could be costly and time-intensive to resolve).</p> <p>EM system specifications designed to allow fishery participants to discontinue the presently required use of paper logbooks.</p>
b) Simplifying, reducing, or eliminating recordkeeping and reporting requirements	<p>EM system specifications designed to allow fishery participants to discontinue the presently required use of paper logbooks.</p> <p>Relative to buoy color scheme registration requirements, WDFW has developed a mobile application that replaces the more cumbersome process of attaching a photo to an email or mailing in a hard copy picture to WDFW.</p>
c) Reducing the frequency of inspections	Not applicable.
d) Delaying compliance timetables	WDFW is delaying the implementation date for EM beyond the implementation date for other proposed rule elements.
e) Reducing or modifying fine schedules for noncompliance	WDFW Enforcement will use reasonable discretion in issuing fines for non-compliance as the EM program gets underway.
f) Any other mitigation techniques, including those suggested by small businesses or small business advocates.	<p>Should a vessel experience technical difficulties with its EM system, WDFW will allow the vessel via an exemption permit to continue fishing using a paper logbook. This will avoid costs in the form of reduced revenue resulting from system failure.</p> <p>Coordination of EM system purchases to take advantage of bulk pricing opportunity.</p> <p>Grant or other financial aid opportunities to offset costs of the rule.</p>

2.4 Involvement of Small Businesses in Rule-Making Process

This section describes how WDFW sought to engage affected parties, including small businesses, in the rulemaking process, including in the development of the SBEIS.

2.4.1 Involvement in Rulemaking

The proposed rule would affect businesses engaged in the coastal commercial Dungeness crab fishery. For nearly ten years, WDFW has worked closely with the industry to discuss the potential for an EM program for the fishery. The concept of an EM program was first introduced to the Washington Coastal Dungeness Crab Advisory Board (Advisory Board), an advisory body comprising fishermen from across the industry, around 2010. WDFW and Quinault Indian Nation (QIN) shellfish management staff had attended a presentation by the Canadian Crab Fishermen's Association at Nanaimo, British Columbia regarding the implementation of EM in their fishery. WDFW managers noted the potential of EM to support regulatory measures such as pot limits, season delays, and area closures being undertaken to achieve harvest sharing under tribal-state co-management agreements. WDFW presented the concept to the Advisory Board, but it was not well received. Objections to EM included excessive government oversight, costs, and potential for equipment malfunction. The QIN proceeded to implement EM for their fleet in 2015.

In the meantime, EM became a frequent topic at both Advisory Board meetings and state-tribal meetings. With the QIN EM program in place, state crab fishers began to recognize possible benefits including the potential to investigate or dispel allegations of gear tampering, the potential to lessen the need for reliance on special management areas open exclusively to tribal participants thereby allowing more in-common fishing opportunity between state and tribal fleets, and the potential to manage area closures associated with biotoxin events. Responsive to this interest, WDFW sought grant funding for a pilot project to test EM in 2016 and 2017 without success. WDFW continued to pursue funding options and in 2020 received a grant from the National Fish and Wildlife Foundation to begin a collaborative pilot project working with volunteers from coastal crab fishery participants. For the initial phase of the project, two vessels were outfitted with EM equipment; later the project expanded to include ten vessels.

Besides the EM benefits crab fishers began to acknowledge, in a tandem process, WDFW managers identified EM as a component of the coastal fishery's Conservation Plan (CP). Spurred by incidences of whale entanglements with Dungeness crab gear along the U.S. west coast, WDFW notified the National Marine Fisheries Service of its intent to apply for an Endangered Species Act Section 10 Incidental Take Permit (ITP) for the Washington coastal commercial Dungeness crab fishery in 2018. The CP is the first step in achieving an ITP. Given the complexity of this effort, WDFW held numerous Advisory Board and public meetings to engage with and keep fishery participants apprised of CP development. These meetings afforded opportunity to share findings on the EM project and to receive input on technical as well as practical considerations. Comment and feedback at these meetings were used to guide and refine development of the proposed EM system specifications, regulations, and timing for implementation.

Key outreach activities and points of involvement of the industry in the rulemaking process to date are summarized in

Table 6.

The elements of the proposed rule that are not expected to result in costs for the coastal commercial Dungeness crab fishery and other coastal commercial fixed gear fisheries were presented at many of the same meetings listed in Table 5 and in the Washington Coastal Dungeness Crab Newsletter. Similarly, all but some minor elements of the proposed rules that are not expected to result in costs for Puget Sound shellfish fisheries were communicated by WDFW via email and discussed with industry representatives at multiple public industry meetings since Spring 2022.

Table 6. WDFW Outreach Activities for Development of Electronic Monitoring System Program and Proposed Rule

Date	Activity
March 19, 2019	Presentation on EM options at WDFW workshop with crab industry
April 24, 2019	WDFW workshop with crab industry agenda included further discussion on EM
August 15, 2019	Coastal Crab Advisory Board Meeting agenda included discussion on EM Pilot Project
April 30, 2020	Conservation Plan Update, agenda included discussion on EM program, Coastal Crab Industry Webinar
July 29, 2020	Coastal Crab Advisory Board Webinar agenda included discussion on EM program
December 3, 2020	Coastal Crab Advisory Board Webinar agenda included update on EM Pilot Project,
December 10, 2020	Presentation: "Conservation Plan Update" at the Coastal Crab Industry Meeting included EM in presentation
February 19, 2021	Letter to Coastal Crab Fishery Participants providing information on the February 26, 2021, Washington Fish and Wildlife Commission Meeting
February 26, 2021	Presentation: "Update: Coastal Commercial Dungeness Crab Conservation Plan Progress" to Washington Fish and Wildlife Commission, Public meeting, EM addressed in presentation
May 13, 2021	Coastal Crab Advisory Board Webinar agenda included update on EM Pilot Project
October 28, 2021	Coastal Crab Advisory Board Webinar agenda included update on EM Pilot Project
September 21, 2022	Presentation "Electronic Monitoring for Coastal Dungeness Crab Fishery Management" at the Coastal Crab Industry Meeting
November 22, 2022	Presentation of the 2023 Rule Package to the Coastal Commercial Dungeness Crab Advisory Committee Meeting
February 2023	Update on development of the EM program in the First Edition of the Washington Coastal Dungeness Crab Fishery Newsletter
March 23, 2023	Coastal Crab Advisory Board Webinar agenda included update on EM
May 11, 2023	Industry meeting to discuss rulemaking and implementation of EM in the coastal commercial Dungeness crab fishery

2.4.2 Involvement in SBEIS Development

To collect information to inform development of this SBEIS, IEc reached out to 15 individuals representing businesses that would incur costs as a result of the proposed rule. Each prospective interviewee received an email followed by a text message in cases where the potential interviewee did not respond to the email. For individuals that were unresponsive to the first two contact attempts, IEc made one final attempt to reach them by text. Ultimately, IEc conducted interviews directly with eight industry representatives (including the one large business license holder), as well as two other individuals identified as having information potentially relevant to

the analysis.⁴³ One interviewee subsequently discussed the proposed rule and interview questions with two additional industry representatives and provided the results of those conversations to IEc, effectively bringing the total number of individuals from whom information was collected to 12. Targets for outreach represented a distribution of businesses across multiple variables including geographic area of operation, participation in other fisheries (e.g., Oregon Dungeness crab, black cod), and whether or not they participated in the EM pilot program. It also included individuals representing varied business arrangements, including individuals that own both their vessel and a crab license and fish in the fishery, those that own a vessel but lease a crab license, and those that own both licenses and vessels but employ crew and captains to operate those vessels/fish those licenses. Following the interview guide provided as Attachment A, IEc sought input from affected businesses and others, as appropriate, regarding the nature and magnitude of costs that could result from the proposed rule, the structure of the industry and identification of entities that would likely incur the costs of the rule, and ideas and opportunities that WDFW might consider to mitigate rule costs.

2.5 Jobs Created or Lost

Compliance costs are relatively low compared to average annual revenues, and interviewees identified that the costs associated with the rule were not expected to be substantial from a business perspective. The small businesses in this industry may have between approximately two and five seasonal employees that work as crew on the fishing vessels, and the proposed rule is unlikely to influence jobs in the industry.

Compliance with the proposed rule may result in a temporary uptick in business for marine electricians operating in coast ports. However, as the need for this service would only be one-time, and businesses may complete the unit installation themselves, it is unlikely this element of the proposed rule would result in job creation.

2.6 Summary Conclusions

The likely cost of complying with the rule ranges from \$1,830 to \$2,045 in start-up costs to purchase and install the equipment and pay for the first year of the data plan. In subsequent years costs would be on the order of \$450 to \$600 for maintaining the system and the data plan. The start-up costs of the rule could represent up to one percent of annual revenues (assuming the lowest end of the revenue range and highest end of the cost range). Given the minor cost threshold of \$450 to \$1,500, the costs of the proposed rule are expected to generate more than minor costs to businesses in the industry. As over 99 percent of businesses affected by the proposed rule are small, the proposed rule would disproportionately affect small businesses.

As the potential exists for more than minor costs to be incurred by businesses as a result of the proposed rule, and because small businesses are expected to be disproportionately impacted in cases where costs are incurred, WDFW has identified several potential mitigation options to defray the impacts to small businesses. These include allowing flexibility in the type of unit purchased to comply with the proposed rule, coordinating unit purchases to take advantage of bulk pricing, and allowing fishermen to revert to use of paper logbooks in cases of EM system malfunction.

⁴³ In addition to interviews with affected businesses, IEc also conducted data collection interviews with a representative of the Quinalt Indian Nation, which has had previous and ongoing experience using EM with its Dungeness crab fishery, and with Archipelago Marine Research Ltd., the creator and distributor of one representative EM system that would meet the technical specifications laid out in the proposed rule.

References

D&B Hoovers business database. Queried April 20, 2023.

Interviews with industry representatives conducted by IEc, April 2023.

Personal and email communication with Archipelago Marine Research Ltd. representative, May 1, 2023 and May 3, 2023.

Personal and email communication with WDFW staff, March, April and May 2023.

RCW 19.85

RCW 19.85.020

RCW 19.85.030

RCW 19.85.040

WDFW Coastal Commercial Dungeness Crab License data provided by WDFW via secure server on April 25, 2023.

WDFW Ex-Vessel Revenue Data provided by WDFW via secure server on April 25, 2023.

ATTACHMENT A | Interview Guide

Introduction (for all Interviewees)

- IEC is an environmental and economic consulting firm with expertise in developing regulatory analyses for state and federal agencies.
- IEC has been retained by the Washington Department of Fish and Wildlife to develop a Small Business Economic Impact Statement for a forthcoming proposed rule that would require Dungeness crab fishing vessels to implement Electronic Monitoring (EM).
- The SBEIS considers whether the rule will impose more than minor costs on businesses in the industry and, if so, whether those costs would disproportionately affect small businesses (defined as businesses employing <50 people).
- Our analysis is focused on understanding the nature of and costs to businesses in the Dungeness crab fishery. We are conducting a series of interviews with industry representatives to collect this information.

Dungeness Crab Fishermen

1. Can you describe your activities as a participant in the coastal Dungeness crab fishery (how many years, where do you fish, do you own or lease your license)?
2. Do you own the boat(s) you use?
 - a. How many boats do you operate/own?
 - b. Is this a typical arrangement for how participants operate in this fishery or is there a wide variety?
3. Are the businesses that incur costs related to the vessels (e.g., requirement to install electronic monitoring) generally small businesses (i.e., fewer than 50 employees)?
4. Are you familiar with the proposed rule that DFW is presently developing?
5. Do you or have you used EM?
6. What is your understanding of the costs of EM systems? Do you have information beyond what has been provided by DFW on the cost of the EM (e.g., purchase price, installation costs, annual maintenance costs)?
7. Who is most likely to bear the costs of the EM (e.g., license holder, boat owner, other)?
8. Outside of these types of costs, do you foresee any other potential costs that may result from a requirement to install and use an EM system?
9. Do you anticipate a difficulty in learning how to maintain/operate the EM once installed?
10. Do you believe it will be more or less time intensive than keeping a logbook?
11. How long does it currently take to fill out your logbook for a fishing day (approximate hours)?

12. Do you own a smartphone device that has service in the areas you fish that you would use in congruence to the EM?
13. Other thoughts/comments regarding the rule?

Fishermen Participating in the EM Trial

1. Can you describe your activities as a participant in the Dungeness crab fishery (how many years, locations fished, do you own or lease your license)?
2. Do you own the boat(s) you use?
 - a. How many boats do you operate/own?
 - b. Is this a typical arrangement for how license holders operate in this fishery or is there a wide variety?
3. Are the businesses that incur costs related to the vessels (e.g., requirement to install electronic monitoring) generally small businesses (i.e., fewer than 50 employees)?
4. Are you familiar with the proposed rule that DFW is presently developing?
5. Do you have information on the cost of the EM (e.g., purchase price, installation costs, annual maintenance costs)?
6. Who is most likely to bear the costs of the EM (e.g., license holder, boat owner, other)?
7. What was your experience with the electronic monitoring system?
 - a. Did you find it or the smartphone app difficult to use?
8. What was the EM like in comparison to using your logbook every day?
 - a. What is the level of effort required to conduct regular reporting between these two methods?
9. Do you expect other Dungeness Crab license holders to have a similar experience with the EM as you?
10. Outside of these types of costs, do you foresee any other potential costs that may result from a requirement to install and use an EM system?
11. Other thoughts/comments regarding the rule?

Dungeness Crab Association Heads

1. Are you familiar with the forthcoming proposed rule?
2. Can you describe the Dungeness crab fishing industry a bit?
 - a. How many license holders?
 - b. Are license holders and/or vessel owners generally small businesses (fewer than 50 employees)?
 - c. Do license holders generally own their own boats? If yes, how many?

- d. Who do you expect is likely to bear the costs of purchasing, installing and maintaining the EM equipment (e.g., license holder, boat owners, other)?
3. Do you have information on the costs of EM for the fishery?
 - a. Potential costs outside of the purchase, installation, and maintenance of the EM?
4. How does the EM compare to the use of logbooks for recording and reporting purposes?
 - a. What is the relative level of effort across the two methods?
 - b. Does the industry have particular preferences/concerns with respect to EM versus logbooks?
5. Other thoughts/comments regarding the rule?